This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended): A method for preparing an ~~An~~ alignment layer for aligning liquid crystal molecules, said alignment layer comprising: (a) a polymer film formed from a polymer and (b) at least one reactive mesogen additive in monomeric, oligomeric or polymeric form within said polymer film, wherein said at least one reactive mesogen additive is not said polymer used to form said polymer film, and wherein, after preparation of said alignment layer, said alignment layer contains unreacted polymerizable groups in said at least one reactive mesogen additive, said method comprising:

depositing a layer of a solution onto a surface, said solution containing said polymer or a precursor of said polymer, and processing said layer of solution to form said alignment layer, wherein said at least one reactive mesogen additive is incorporated into said layer of solution before said processing.

2. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein said alignment layer comprises less than 50 % by weight of said at least one reactive mesogen additive.

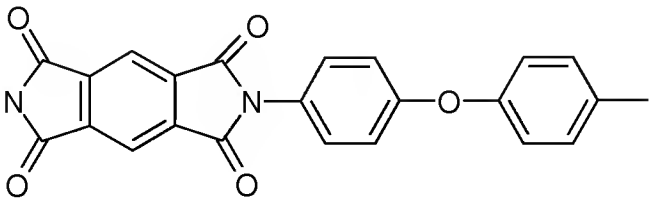
3. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein said at least one reactive mesogen additive is present in monomeric or oligomeric form in the alignment layer after the preparation of said alignment layer.

4. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein said alignment layer is obtained ~~obtainable~~ from a precursor material comprising at least one reactive mesogen.

5. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, ~~wherein said alignment layer is a solvent processed film~~ wherein said alignment layer is formed from a solution of said polymer.

6. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein said alignment layer comprises a polyimide film and said at least one reactive mesogen additive within said polyimide film, and said alignment layer is obtained from a precursor solution of polyimide precursor and said at least one reactive mesogen additive.

7. (Currently Amended): A method ~~An alignment layer~~ according to claim 6, wherein said polyimide film has repeating units of formula A



A

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8. (Currently Amended): A method ~~An alignment layer~~ according to claim 5, wherein said alignment layer is a solvent processed cellulose based film.

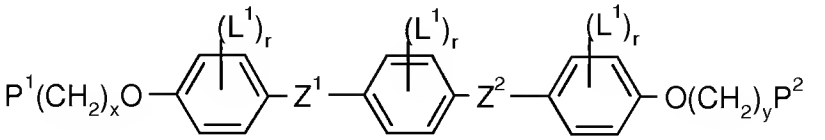
9. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein said polymer film is a triacetate cellulose (TAC) or diacetate cellulose (DAC) film.

10. (Currently Amended): A method for preparing an ~~An~~ alignment layer for aligning liquid crystal molecules, wherein said alignment layer comprises: (a) a command layer comprising one or more compounds selected from photochromic compounds, isomerizable compounds, chromophores and dyes, wherein changes of the chemical structure and/or the orientational direction of said one or more compounds induce a specific alignment of a liquid crystal material coated onto said layer; and (b) at least one reactive mesogen additive in monomeric, oligomeric or polymeric form within said command film, wherein, after preparation of said alignment layer, said alignment layer contains unreacted polymerizable groups in said at least one reactive mesogen additive, said method comprising:

depositing a layer of a solution onto a surface, said solution containing said one or more compounds of said command layer, and processing said layer of solution to form said command layer, wherein said at least one reactive mesogen additive is incorporated into said layer of solution before said processing.

11. (Currently Amended): A method ~~An alignment layer~~ according to claim 10, wherein said one or more compounds are selected from derivatives of azobenzene, stilbenes, spiropyran, spirooxadines, α-hydrazono-β-ketoesters, cinnamate, retinylidene, chalcone, coumarins, benzylidenephthalimidines, benzylideneacetophenones, diphenylacetylene, and stilbazoles.

12. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein said at least one reactive mesogen additive is of one of the following formulae:



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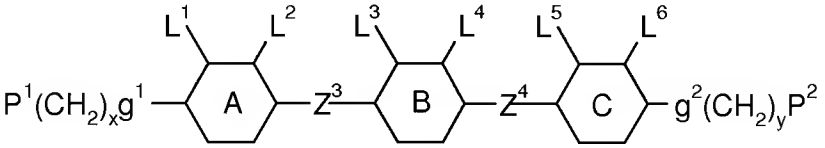

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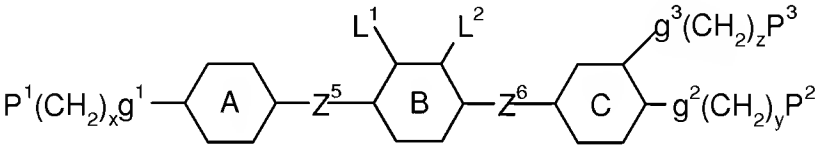

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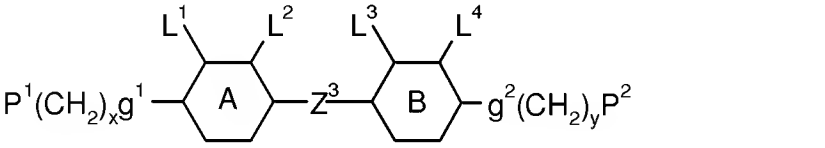

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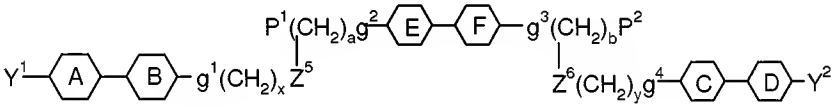

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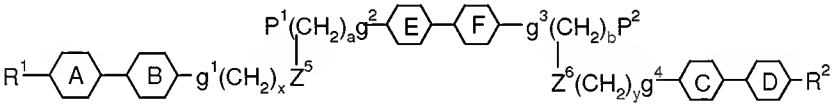


VI

wherein

P^1, P^2 and P^3 are each, independently of each other, a polymerizable group,

Z^1 and Z^2 are each, independently of each other, -O-, -S-, -CO-, -COO-, -OCO-, -O-COO-, $-OCH_2-$, $-CH_2O-$, $-CH_2CH_2-$, -C≡C-, -CH=CH-COO-, -OCO-CH=CH- or a single bond,

Z^3 and Z^4 are each, independently of each other, -COO-, -OCO-, $-CH_2CH_2-$, $-CH_2O-$, -

OCH_2-, -CH=CH-, -CF=CF-, -C≡C- or a single bond,

Z^5 and Z^6 are each, independently of each other, -O-, -COO-, -OCO-, $-CH_2CH_2$-, $-CH_2O$-, $-OCH_2$- or a single bond,

Y^1 and Y^2 are each, independently of each other, a polar group,

R^1 and R^2 are each, independently of each other, an unpolar alkyl or alkoxy group,

A, B, C and D are each, independently of each other, 1,4-phenylene that is optionally mono-, di- or trisubstituted by L^1, L^2, L^3, L^4, L^5, L^6 or 1,4-cyclohexylene,

L^1, L^2, L^3, L^4, L^5 and L^6 are each, independently of each other, H, F, Cl, CN or an optionally halogenated alkyl, alkoxy, alkylcarbonyl, alkoxycarbonyl or alkoxycarbonyloxy group with 1 to 7 C atoms,

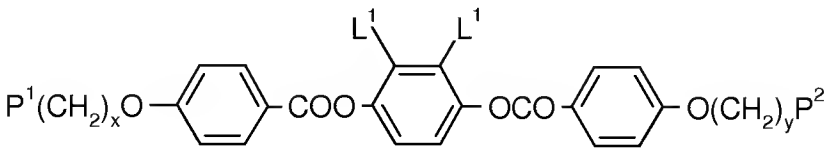
r is 0, 1, 2, 3 or 4,

x and y are each, independently of each other, an integer from 1 to 12,

z is 1, 2 or 3, and

g^1, g^2,g^3 and g^4 are each, independently of each other, a single bond, -O-, -COO- or –OCO-.

13. (Currently Amended): A method ~~An alignment layer~~ according to claim 12, wherein said at least one reactive mesogen additive is of one of the following formulae:



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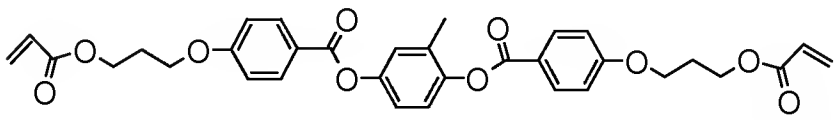

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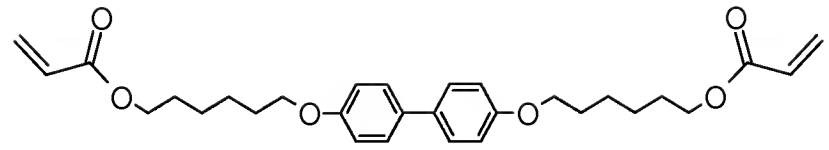

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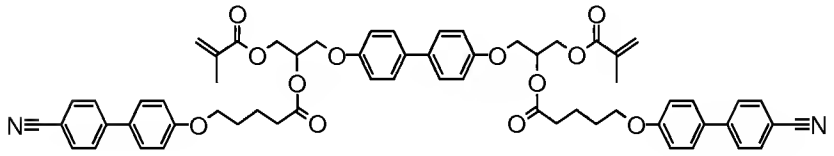

Va

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and the polymer film is a TAC or DAC film.

14. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein said alignment layer ~~is obtainable from a~~ precursor material ~~that~~ comprises 0.5 to 4 % by weight of said at least one reactive mesogen.

15. (Currently Amended): A polymer precursor solution for preparing an alignment layer comprising: (a) a polymer film formed from a polymer and (b) at least one reactive mesogen additive in monomeric, oligomeric or polymeric form within said polymer film, wherein said at least one reactive mesogen additive is not said polymer used to form said polymer film,

~~according to claim 1~~, said polymer precursor solution comprising: ~~comprises~~

a solvent, said at least one reactive mesogen additive, and a polymer component, said polymer component comprising: a polyimide polymer, triacetate cellulose, diacetate cellulose, or a precursor of said polyimide polymer,

wherein said polymer precursor comprises less than 20 % by weight of said at least one reactive mesogen additive.

16. (Cancelled):

17. (Cancelled):

18. (Currently Amended): A method of preparing a laminate, said method comprising:

providing an alignment layer according to claim 1,

applying ~~providing~~ a layer of a polymerizable liquid crystal material onto said ~~an~~ alignment layer ~~according to claim 1~~,

optionally aligning the liquid crystal material into uniform orientation, and

polymerizing or crosslinking the liquid crystal material, wherein said at least one reactive mesogen additive is entangled in said alignment layer, and is chemically bound to the layer of liquid crystal material.

19. (Currently Amended): In an optical, electrooptical, information storage, decorative and security device, the improvement wherein said device contains an alignment layer prepared according to claim 1.

20. (Currently Amended): An optical component or device comprising at least one alignment layer prepared according to claim 1.

21. (Currently Amended): A liquid crystal display comprising at least one alignment layer prepared according to claim 1.

22. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein said alignment layer comprises less than 20 % by weight of said at least one reactive mesogen additive.

23. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein said alignment layer comprises less than 10 % by weight of said at least one reactive mesogen additive.

24. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein said alignment layer comprises less than 5 % by weight of said at least one reactive mesogen additive.

25. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein said alignment layer has a birefringence of less than 0.05.

26. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein said alignment layer has a birefringence of less than 0.005.

27. (Currently Amended): A method ~~An alignment layer~~ according to claim 1,

wherein said alignment layer is obtained from a ~~polymer precursor or~~ solution of polymer precursor ~~solution~~, to which said at least one reactive mesogen is added before processing or polymerizing.

28. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein said ~~alignment layer is obtained by adding said~~ at least one reactive mesogen is added to a solution of said ~~the~~ polymer.

29. (Currently Amended): A method ~~An alignment layer~~ according to claim 12, wherein said alignment layer is obtained ~~obtainable~~ from a precursor material that comprises 0.5 to 4 % by weight of said at least one reactive mesogen.

30. (Currently Amended): A method ~~An alignment layer~~ according to claim 12, wherein said alignment layer is obtained ~~obtainable~~ from a precursor material that comprises 1 to 2 % by weight of said at least one reactive mesogen.

31. (Currently Amended): A method ~~An alignment layer~~ according to claim 3, wherein said at least one reactive mesogen additive is present in monomeric form in the alignment layer after the preparation of said alignment layer.

32. (Currently Amended): A method ~~An alignment layer~~ according to claim 14, wherein said alignment layer is obtained ~~obtainable~~ from a precursor material that comprises 1 to 2 % by weight of said at least one reactive mesogen.

33. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein, after said alignment layer is ~~obtained~~ processed from said solution layer, ~~a precursor material comprising said at least one reactive mesogen and material for forming said polymer film, and wherein when said polymer film is subsequently being formed~~ said at least one reactive mesogen is physically trapped within said polymer of said polymer film. [[.]]

34. (Currently Amended): A method ~~An alignment layer~~ according to claim 33, wherein said alignment layer is obtained by applying to a substrate a ~~precursor material comprising a~~ solution of said ~~the~~ polymer ~~used to form~~ of said polymer film, and ~~wherein~~ said solution further contains said at least one reactive mesogen, said solution being applied

to said substrate, and processing of said alignment layer comprises ~~then the~~ heating said solution ~~is heated~~ to remove excess solvent.

35. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein said alignment layer is obtained by applying to a substrate a solution ~~precursor material~~ comprising said at least one reactive mesogen and a polymer precursor for forming said polymer film, and processing of said alignment layer comprises ~~then~~ subjecting ~~the precursor material~~ said polymer precursor to polymerization.

36. (Currently Amended): A method ~~An alignment layer~~ according to claim 23, wherein said alignment layer has a birefringence of less than 0.05.

37. (Currently Amended): A method ~~An alignment layer~~ according to claim 1, wherein the material of said alignment layer or precursor material thereof, before addition of said at least one reactive mesogen, is non-mesogenic and has a birefringence Δn of < 0.01.

38. (Cancelled):

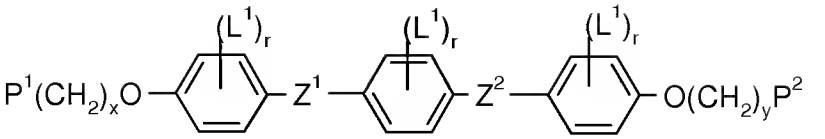
39. (Cancelled):

40. (Cancelled):

41. (Cancelled):

42. (Currently Amended): An polymer precursor according to claim 15, wherein said polymer precursor comprises less than 10 ~~50~~ % by weight of said at least one reactive mesogen additive.

43. (Previously Presented): A polymer precursor according to claim 15, wherein said at least one reactive mesogen additive is of one of the following formulae:



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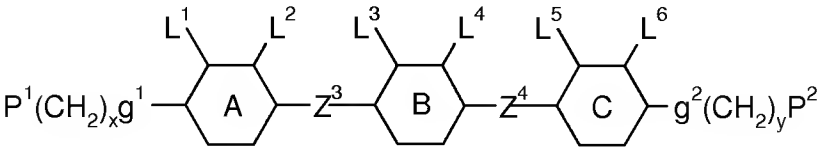

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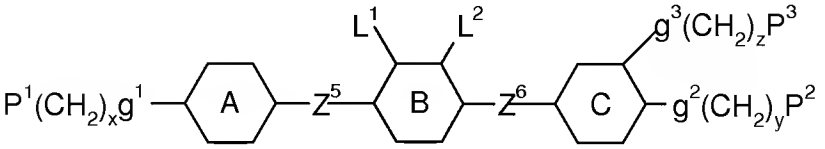

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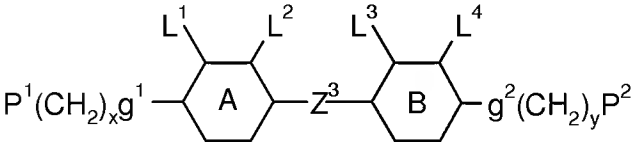

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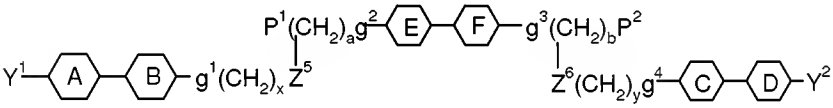

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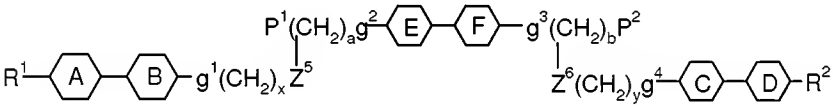


VI

wherein

P^1, P^2 and P^3 are each, independently of each other, a polymerizable group,

Z^1 and Z^2 are each, independently of each other, -O-, -S-, -CO-, -COO-, -OCO-, -O-COO-, $-OCH_2-$, $-CH_2O-$, $-CH_2CH_2-$, -C≡C-, -CH=CH-COO-, -OCO-CH=CH- or a single bond,

Z^3 and Z^4 are each, independently of each other, -COO-, -OCO-, $-CH_2CH_2-$, $-CH_2O-$, $-OCH_2-$, -CH=CH-, -CF=CF-, -C≡C- or a single bond,

Z^5 and Z^6 are each, independently of each other, -O-, -COO-, -OCO-, $-CH_2CH_2-$, $-CH_2O-$,

$-OCH_2-$ or a single bond,

Y^1 and Y^2 are each, independently of each other, a polar group,

R^1 and R^2 are each, independently of each other, an unpolar alkyl or alkoxy group,

A, B, C and D are each, independently of each other, 1,4-phenylene that is optionally mono-, di- or trisubstituted by L^1, L^2, L^3, L^4, L^5, L^6 or 1,4-cyclohexylene,

L^1, L^2, L^3, L^4, L^5 and L^6 are each, independently of each other, H, F, Cl, CN or an optionally halogenated alkyl, alkoxy, alkylcarbonyl, alkoxycarbonyl or alkoxycarbonyloxy group with 1 to 7 C atoms,

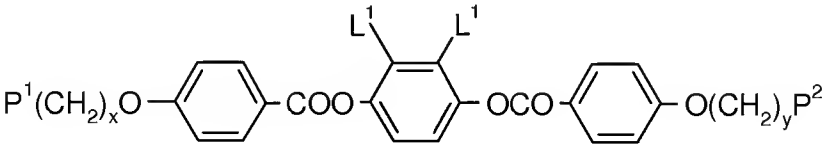
r is 0, 1, 2, 3 or 4,

x and y are each, independently of each other, an integer from 1 to 12,

z is 1, 2 or 3, and

g^1, g^2,g^3 and g^4 are each, independently of each other, a single bond, -O-, -COO- or –OCO-.

44. (Currently Amended): A polymer precursor according to claim 43, wherein said at least one reactive mesogen additive is of one of the following formulae:



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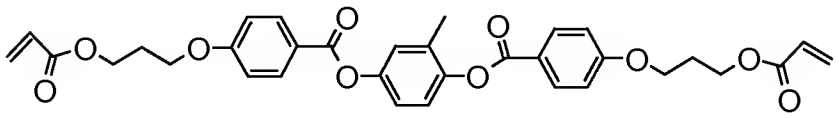

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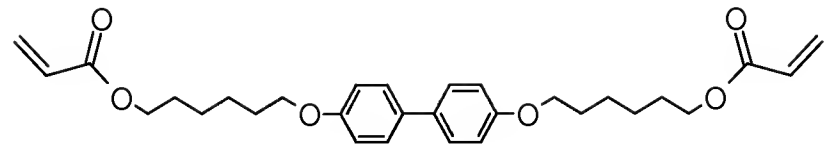

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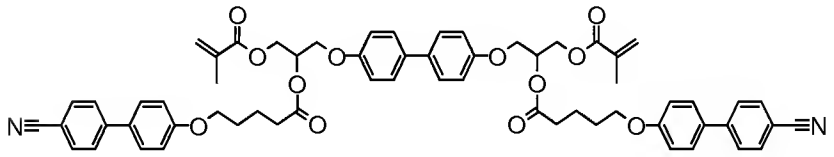

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and ~~the polymer film is a TAC or DAC film~~ said polymer component comprises triacetate cellulose or diacetate cellulose.

45. (Previously Presented): A polymer precursor according to claim 15, wherein said precursor can form an alignment layer having a birefringence of less than 0.05.

46. (Previously Presented): A polymer precursor according to claim 15, wherein said precursor can form an alignment layer having birefringence of less than 0.005.

47. (Previously Presented): A polymer precursor according to claim 15, wherein said precursor comprises 0.5 to 4 % by weight of said at least one reactive mesogen.

48. (Previously Presented): A polymer precursor according to claim 15, wherein said precursor comprises 1 to 2 % by weight of said at least one reactive mesogen.

49. (New): An alignment layer for aligning liquid crystal molecules, said alignment layer comprising: (a) a polymer film formed from a polymer and (b) at least one reactive mesogen additive in monomeric, oligomeric or polymeric form within said polymer film, wherein said at least one reactive mesogen additive is not said polymer used to form said polymer film, and wherein, after preparation of said alignment layer, said alignment layer contains unreacted polymerizable groups in said at least one reactive mesogen additive,

wherein said alignment layer is a solvent processed cellulose based film.

50. (New): An alignment layer according to claim 49, wherein said polymer film is a triacetate cellulose (TAC) or diacetate cellulose (DAC) film.

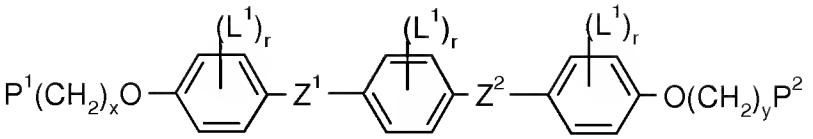
51. (New): An intermediate structure for use in manufacturing a laminate Comprising, a substrate, an alignment layer, and a film comprising a polymerized or crosslinked liquid crystal material, said intermediate consisting of:

an alignment layer capable of aligning liquid crystal molecules and a substrate,

wherein said said alignment layer comprises: (a) a polymer film formed from a polymer and (b) at least one reactive mesogen additive in monomeric, oligomeric or polymeric form within said polymer film, wherein said at least one reactive mesogen additive is not said polymer used to form said polymer film, and wherein, after preparation of said alignment layer, said alignment layer contains unreacted polymerizable groups in said at least one reactive mesogen additive.

52. (New): An intermediate structure according to claim 51, wherein said at least one reactive mesogen additive is in monomeric or oligomeric form within said polymer film.

53. (New): An intermediate structure according to claim 51, wherein said polymer film is a polyimide film or a solvent processed cellulose based film, and wherein said at least one reactive mesogen additive is of one of the following formulae:



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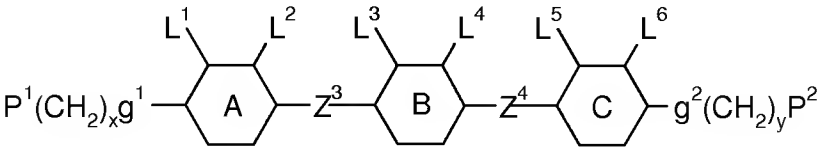

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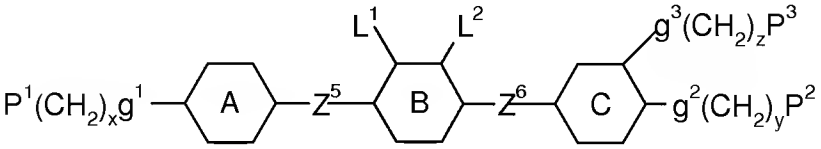

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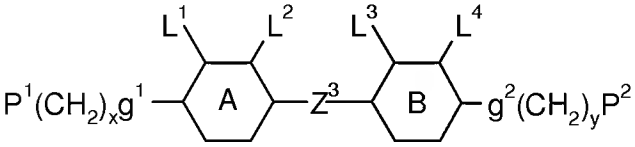

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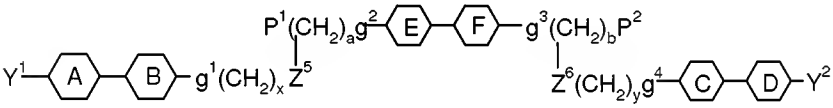

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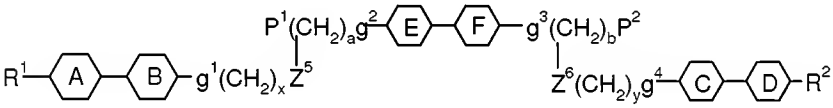

VI

wherein

P^1, P^2 and P^3 are each, independently of each other, a polymerizable group,

Z^1 and Z^2 are each, independently of each other, -O-, -S-, -CO-, -COO-, -OCO-, -O-COO-, $-OCH_2-$, $-CH_2O-$, $-CH_2CH_2-$, -C≡C-, -CH=CH-COO-, -OCO-CH=CH- or a single bond,

Z^3 and Z^4 are each, independently of each other, -COO-, -OCO-, $-CH_2CH_2-$, $-CH_2O-$, $-OCH_2-$, -CH=CH-, -CF=CF-, -C≡C- or a single bond,

Z^5 and Z^6 are each, independently of each other, -O-, -COO-, -OCO-, $-CH_2CH_2-$, -

CH_2O-, -OCH_2- or a single bond,

Y^1 and Y^2 are each, independently of each other, a polar group,

R^1 and R^2 are each, independently of each other, an unpolar alkyl or alkoxy group,

A, B, C and D are each, independently of each other, 1,4-phenylene that is optionally mono-, di- or trisubstituted by L^1, L^2, L^3, L^4, L^5, L^6 or 1,4-cyclohexylene,

L^1, L^2, L^3, L^4, L^5 and L^6 are each, independently of each other, H, F, Cl, CN or an optionally halogenated alkyl, alkoxy, alkylcarbonyl, alkoxycarbonyl or alkoxycarbonyloxy group with 1 to 7 C atoms,

r is 0, 1, 2, 3 or 4,

x and y are each, independently of each other, an integer from 1 to 12,

z is 1, 2 or 3, and

g^1,g^2,g^3 and g^4 are each, independently of each other, a single bond, -O-, -COO- or –OCO-.

54. (New): An intermediate structure according to claim 51, wherein said alignment layer comprises less than 5 % by weight of said at least one reactive mesogen additive.

55. (New): A method of preparing a laminate, said method comprising: providing a layer of a polymerizable liquid crystal material onto an intermediate structure according to claim 51, optionally aligning the liquid crystal material into uniform orientation, and polymerizing or crosslinking the liquid crystal material.

56. (New): A laminate prepared according to claim 18.